

## Helping Out a Southern Friend: Beneficial Management Practices for Sage-grouse

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The Greater Sage-grouse is a large upland bird that lives in warm, dry grasslands where sagebrush, particularly silver sagebrush (*Artemisia cana*), is present. This shrub provides food and shelter for the birds year-round. While this bird species was once found in most areas of the dry mixed-grass eco-region (associated with the brown soil zone), the Sage-grouse is currently confined to a very small area in southwestern Saskatchewan and southeastern Alberta where it is relatively isolated from the main populations of Sage-grouse in Montana, Wyoming and Colorado. This species is currently endangered in Canada as the population has declined due to a number of factors including habitat loss, degradation and fragmentation, increased predation, and diseases such as the west Nile virus.

Another reason for their decline is their extreme sensitivity to disturbance. Any type of human presence can disturb Sage-grouse and studies have shown that roads utilized during the breeding or nesting season are known to cause abandonment of leks (mating grounds) and nests, as well as resulting in direct mortality of sage grouse through collisions with vehicles. Even one vehicle per day has been shown to disrupt Sage-grouse breeding grounds (known as leks) and results in a lower number of nests.

Producers can be key to the conservation of this endangered bird because they manage important habitat and therefore are in a position to help with stewardship activities in Sage-grouse habitat. These activities are commonly referred to as Beneficial Management Practices or BMP's.

As the preferred habitat for Sage-grouse are areas of natural sagebrush with adjacent native prairie, BMP's for this species revolve mainly around the management of these areas through encouragement of robust sagebrush communities and healthy native grassland. More specific goals of managing habitat for Sage-grouse include providing as much forb content as possible (at least 10% cover of forbs is desirable but often difficult to attain in Canada), retaining and enhancing sagebrush cover (at least 15% cover with sagebrush heights ranging from 40 to 80 cm is desirable), providing high litter content, and managing for patchy vegetation structure (i.e. a full range of grass and shrub heights from tall to very short).

Idling pastures has been shown to increase vegetation density and height and would imply improved cover for sage grouse. However, due to the associated decrease in forb cover that comes from no grazing, idling pastures is not a desirable practice and some level of grazing is beneficial.

Barbed-wire fences, particularly newly located fences in Sage-grouse habitat, can be a cause of mortality as this species tends to fly close to the ground, increasing risk of collisions with fences. New fences also increase human activity during fence maintenance and provide perches for avian predators of Sage-grouse.

Sage-grouse tend to avoid areas of trees or tall shrubs. This avoidance of tall woody vegetation is likely related to the association of predators with woody vegetation. In addition, planting of shelterbelts and non-native shrubs such as carragana is known to attract exotic game birds such as pheasants which may displace sage grouse, increase disease risk, and even lay eggs in sage grouse nests.

Based on the habitat requirements and behavior of Sage-grouse, the following is a list of BMP's that land owners may consider to help this endangered bird in its Canadian range:

- Conserve remaining natural prairie;
- Avoid removal or reduction of woody shrubs (i.e. Silver Sagebrush);
- Avoid early spring livestock use of silver sagebrush habitat;
- Graze lightly and periodically in the early spring or late dormant season;
- Avoid concentrated grazing or supplemental feeding in sagebrush communities in the winter;
- Limit sheep utilization of sagebrush areas, especially during nesting and brood rearing;

- Avoid water developments that affect the natural flow of water to low-lying moist areas and affect growth of riparian vegetation;
- Install escape ramps in existing steep-sided water troughs and dugouts;
- Avoid installing fences within sagebrush and native prairie habitat where fences did not previously exist;
- When rebuilding existing fences, make the top 2 wires smooth rather than barbed;
- Do not plant trees or shrubs on native grasslands;
- In areas of native or tame grasslands, remove man-made structures that serve as roosts for avian predators;
- Reduce traffic on roads within 3.5 km of a sage grouse lek during breeding & nesting (early Mid Feb to end of June);
- Reduce speed on roads to 10km/hr of a sage grouse lek (early Mid February to end of May);
- Encourage resource developers to minimize construction of new roads and trails within 6 km of sage grouse lek for paved or gravel roads and 3 km for dirt roads;
- Avoid human activity and all terrain vehicle use in sage grouse habitat during breeding and nesting period (mid Feb to end of June) and avoid activity closer than 3.5 km to a lek.

### **Additional Information on the Greater Sage-grouse:**

#### Biological seasons:

- Lekking/Strutting (Feb 15 to May 30);
- Nesting (March 15 to June 1);
- Brood rearing (May 1 to Sept 14); Early winter (Sept 15 to Nov 30); Late winter (Dec 1 to Feb 14)

#### Sage-grouse like native prairie habitats with these things:

- Moderate shrub cover, typically silver sage
- Patchy distribution of shrub cover
- Limited barren ground
- Moderately moist habitats
- Moderately low amounts of lush green vegetation cover
- Available prey (insects) and forage (forbs)
- Limited human-modified areas
- Limited noise disturbance
- Limited presence of artificial perches for avian predators of sage grouse

#### These are things to avoid:

- Loss or alteration of natural vegetation and/or soil substrate,
- Disturbance or reduction of appropriate levels of silver sage cover,
- Increase in bare ground,
- Alteration of natural moisture regimes
- Increase in human-modified areas,
- Increase in noise disturbance,
- Changes in vertical structure of prairie habitat that lead to an increase in predator density (e.g., by increasing perching and nesting areas for avian predators),
- Reduction in prey or forage availability.

For more information, please visit Environment Canada's Species at Risk website at [www.sararegistry.gc.ca](http://www.sararegistry.gc.ca).